Rebuttal Testimony of

William C. Palmer

On Behalf of Ameritech Illinois

PUBLIC VERSION

I. INTRODUCTION

Q. Please state your name and position.

A. My name is William C. Palmer. I am a Director at LECG, Inc. My business address is 1603 Orrington Avenue, Suite 1500, Evanston, Illinois, 60201.

Q. Are you the same William C. Palmer who provided direct testimony in this proceeding?

A. Yes, I am.

II. PURPOSE AND ORGANIZATION OF TESTIMONY

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to the criticisms of Ameritech Illinois' Unbundled Local Switching/Shared Transport ("ULS-ST") TELRIC studies contained in the direct testimonies of Mr. James D. Webber on behalf of Corecomm Illinois, Inc.; Dr. August Ankum on behalf of AT&T Communications

of Illinois, Inc. and WorldCom, Inc.; Mr. Joseph Gillan on behalf of AT&T Communications of Illinois, Inc.; Pace Coalition and Z-Tel Communications, Inc; and Mr. Christopher L. Graves, Ms. Karen Buckley, Ms. Judith R. Marshall, and Ms. Qin Liu on behalf of the Illinois Commerce Commission ("ICC") Staff. I will also provide cost support for a new unbundled switch port price to replace the current interim rate of $5.01 as well as revised Shared Transport cost support and cost support for custom routing of OS or DA via AIN for ULS-ST.

Q. How is your rebuttal testimony organized?

A. In Section III, I discuss the cost support for Ameritech Illinois' proposed ULS-ST prices. In Sections IV through XI I respond to the direct testimonies of Mr. Webber, Dr. Ankum, Mr. Gillan, Mr. Graves, Ms. Liu, Ms. Buckley, and Ms. Marshall, respectively.

III. COST SUPPORT FOR AMERITECH ILLINOIS' PROPOSED SWITCH PORT PRICE

Q. Is Ameritech Illinois proposing a new switch port price to replace the current interim rate of $5.01?

A. Yes, it is. In fact, the Company is presenting two proposals. The preferred proposal is a two-tiered pricing structure consisting of a per-port, per-month rate and a ULS per-minute of use charge, as discussed in my direct testimony. The cost support for the unbundled port proposal is consistent with the cost support for the proposed ULS usage charges. That is, the switching investment associated

with usage is identified separately and apart from the line-terminating investment which forms the basis for the proposed per-port rate. Schedule WCP-1R attached to my rebuttal testimony contains the cost development for unbundled ports under this proposal. Schedule WCP-2R contains the cost development for local switching usage and shared transport under Ameritech Illinois' preferred proposal.

As an alternative, I am providing cost support for a proposal which includes all per-line switch investment reflected in the switch vendor contracts and does not separately identify and assign a portion of that investment to ULS usage. The only usage-related charges under this alternative recover Ameritech Illinois' measurement and bill inquiry expenses. This alternative is being presented largely in response to Dr. Ankum's proposal, which significantly understates port costs and port prices, for the reasons discussed later in my testimony. The cost support for Ameritech Illinos' alternative proposal is contained in Schedules WCP-3R and WCP-4R. Schedule WCP-3R develops unbundled port costs that include switching costs required to provide local switching usage. Schedule WCP-4R develops the reduced local usage costs and shared transport costs of the alternative proposal.

Finally, I should emphasize that it would be inappropriate for purposes of establishing rates in this proceeding to "pick and choose" from the alternatives. More specifically, Schedules WCP-1R and WCP-2R go together. Schedules WCP-3R and WCP-4R go together as well. It would be inappropriate, for

example, to rely on Schedule WCP-1R for port costs and/or Schedule WCP-4R for local usage and shared transport costs.

Finally, Schedule WCP-6R attached to my rebuttal testimony summarizes all the pricing proposals at issue in this proceeding.

Q. Why is Ameritech Illinois presenting these proposals in its rebuttal testimony?

A. Ameritech Illinois originally provided TELRIC cost support for the basic unbundled port as part of the merger compliance requirements of Docket No. 98-0555 in April, 2000. However, those studies have not yet been investigated and/or approved by the Commission. In addition, the fact that unbundled port costs were not filed with my direct testimony has apparently led the other parties to believe that Ameritech Illinois was proposing that the interim rate of $5.01 be maintained and a ULS usage charge also be established. This is not the case. The unbundled port price I am proposing is significantly less than the $5.01 interim rate. Similarly, the per-minute ULS usage rate is significantly less than the rate proposed by Ameritech Illinois in Docket 96-0486.

Q. How were the costs of these proposals developed?

A. The cost models and assumptions used to produce the cost estimates attached to my rebuttal testimony were discussed in my direct testimony. However, I have made two adjustments to the original studies in response to two criticisms made

by Dr. Ankum. I will discuss these adjustments in Section V of my testimony, which responds to Dr. Ankum.

Q. Mr. Hampton attached to his rebuttal testimony a proposed tariff for AIN-Based Custom Routing which is the means by which a CLECs' OS and/or DA traffic is routed to third-party OS and/or DA platforms for CLEC end-user customers being served pursuant to Ameritech Illinois' ULS-ST service. Has Ameritech developed TELRIC support for its proposed $131.45 nonrecurring charge to CLECs to establish new or change its customer routing of OS and/or DA traffic in conjunctions with USL-ST service?

A. Yes. Attached as Schedule WCP-5R is the TELRIC cost study in support of the proposed $131.45 nonrecurring charge.

Q. Would you please briefly describe the TELRIC methodology used by Ameritech Illinois in developing the TELRIC for ULS-ST AIN-based Custom Routing?

A. The Custom Routing of OS or DA via AIN for ULS-ST reflects the costs incurred in loading the appropriate OS or DA routing data per CLEC, per central office switch, per route. The nonrecurring costs identified were developed by multiplying activity times by the appropriate hourly labor rates for the groups performing the work. The TELRIC study also identifies service development costs. The data used in the analysis was obtained through interviews with Subject Matter Experts. The TELRICs so identified were then multiplied by the Shared

and Common cost factor of 34.55 % that resulted from the Commission's Order in Docket 96-0486/0569.

IV. RESPONSE TO MR. WEBBER

Q. At page 13 of his testimony, Mr. Webber notes that Ameritech Illinois' "ULS rate structure contains an all-inclusive port charge of $5.01 and an additional per-minute switching charge." Do you have a response to Mr. Webber's observation?

A. Yes. As discussed earlier in my rebuttal testimony, Ameritech Illinois is proposing a two-tier pricing structure. However, the proposed port charge, which is substantially less than $5.01, does not include any usage costs. In addition, the separately identified usage costs do not contain any costs reflected in the proposed port charge.

Q. Mr. Webber also argues at page 13 of his direct testimony that Ameritech Illinois' proposal "does not comport with the Commission's Order in Docket 96-0486" because the Order requires that any "usage charge should not recover any cost associated with the initial cost of the switch, but only those usage-sensitive costs necessary to operate and maintain the switch." Do you have a response to Mr. Webber's argument?

A. Yes, I do. First, as discussed in my direct testimony, this is a different docket. The cost studies used in Docket 96-0486 were prepared almost five years ago and did not reflect the Analog Switch Replacement and Partners in Provisioning contracts (collectively, the "PIP contracts") with Ameritech's switch vendors that went into effect during that proceeding. The studies in Docket 96-0486 also used Telcordia's Switching Cost Information System ("SCIS"), which the Commission correctly found did not accurately reflect the new contracts. The ARPSM model used in this docket was developed, in part, in response to the Commission's findings and separately identifies port and usage investments based on the current contracts.

Second, Mr. Webber and the other Intervenors seem to be arguing that once the Commission makes a finding it can never again be reviewed or questioned. I disagree. I do not believe that if, for example, the Commission initially rejects a competitive service declaration by a carrier, that carrier is forever required to treat the service in questions as non-competitive and forever forbidden from refiling a subsequent competitive declaration based on more current information. The Commission is free to review its prior decisions as it sees fit, and is not irrevocably bound by its prior findings. Docket 96-0486 discussed the inadequacy of SCIS in computing the charges associated with switching under the PIP contracts; this docket should review the costs of switching under the PIP contracts as computed by ARPSM. As I discuss in the remainder of my rebuttal testimony, much has changed since the TELRIC studies reviewed in Docket 96-0486 were prepared, and Ameritech Illinois is entitled to present that information

in this case. I would also note that the usage charge in Ameritech Illinois' alternative proposal does not recover any of the "initial costs of the switch."

Q. At page 14 of his direct testimony, Mr. Webber observes that the Michigan Public Service Commission has approved a port charge of $2.53. Is Mr. Webber correct?

A. Yes, he is. I would also note however, that the Michigan port charge is higher than the charge Ameritech Illinois is proposing in this proceeding. In addition, the MPSC recently approved in Case No. U12622 a ULS usage charge for ULS-ST of $0.000522 per minute-of-use in addition to the port charge. Finally, I would also note, as discussed in the rebuttal testimony of Mr. Hampton, that every state that has addressed UNE-P has adopted two-tiered pricing structures for ULS and that no state has adopted all-inclusive flat-rated port charges.

V. RESPONSE TO DR. ANKUM

Q. What major areas of contention between Ameritech Illinois and Dr. Ankum will your rebuttal testimony address?

A. Although Dr. Ankum devotes some of his testimony to a discussion of Ameritech Illinois' alleged failure to comply with the Commission's Order in Docket 96-0486, I have already addressed such criticisms in response to Mr. Webber's testimony and will not again respond to Dr. Ankum. Putting aside these compliance issues, there are two major areas of contention with Dr. Ankum. The first area concerns the appropriate weighting of the switch vendor prices for

cutover and growth lines contained in the vendor contracts and reflected in ARPSM. The second area is the ARPSM methodology used to calculate the usage costs developed by Ameritech Illinois. Dr. Ankum also raises some issues regarding the Lucent switch delivery intervals assumed by ARPSM and the trunk costing methodology used in Ameritech Illinois' Network Usage Cost Analysis Tool ("NUCAT") that impact the Company's Shared Transport proposal that I also address.

Growth vs. Cutover Prices

Q. At pages 29 and 35 (and elsewhere), Dr. Ankum claims that Ameritech has overstated its costs by pricing lines on existing digital switches at the higher "growth" prices, and only pricing lines on planned new digital switches at the lower "cutover" prices. Please respond.

A. Dr. Ankum's statement, which is central to much of his testimony on switching costs, reflects more of an embedded rather than forward-looking view of the world. More specifically, the portions of Ameritech facilities that "have been" placed at switch installation versus facilities that "have subsequently been" placed to accommodate growth are not relevant in a forward-looking analysis. What is relevant in a forward-looking cost analysis are the prices that Ameritech can be expected to pay for the equipment it will purchase in the future. Those prices are best determined by the prevailing contracts Ameritech has with its switch vendors.

Ameritech Illinois' switch vendors primarily charge two separate prices for installing switching capacity on a per-line basis. One per-line price applies to a limited number of lines on analog switches specifically identified in the contracts as being replaced with digital switches, while a higher price applies to lines installed on existing digital switches and lines subsequently installed on a "replacement" switch. Importantly, while the replacement price applies only to an explicitly limited number of individual analog switches, the growth price applies to all lines installed on any digital switch in the entire network. ARPSM combines these two prices with the expected quantities of lines at each price in each year of the contracts. In doing so, it generates the single price that the vendor would charge, were it to replace its two-tiered pricing structure with a single per-line price. This single price per line calculated by ARPSM represents the best estimate of the average forward-looking market price the switch vendors would charge Ameritech for any quantity of new lines and is, therefore, the appropriate price estimate to use in TELRIC analysis.

In summary, Dr. Ankum is correct that the ratio of replacement to growth lines is vitally important to producing accurate results, as is the case with any weighted average. However, his statement wrongly implies that the ratio should be based on historic counts of lines not included in the contracts. Instead, to be consistent with forward-looking cost principles, his statement should be modified to indicate that it is vitally important for the model to appropriately reflect the quantities of lines expected to be installed at the replacement and growth line prices specified by the contracts.

Q. Does Dr. Ankum advocate his embedded views elsewhere in his testimony?

A. Yes. At page 29 of his direct testimony, Dr. Ankum states that "Ameritech ignores that large numbers of facilities were placed when switches were newly installed and that the switch vendors *provided* these facilities at very low prices," (emphasis added). Dr. Ankum does not claim that ARPSM does not appropriately reflect the number of facilities installed at the replacement prices *under the contracts*, but instead implies that ARPSM should consider the prices that Ameritech Illinois paid for previously installed switching facilities under old contract prices that are no longer applicable. Dr. Ankum's focus on the prices that were paid for switching facilities in the past is an embedded viewpoint that is inconsistent with forward-looking TELRIC cost principles. The prices contained in the current switch contracts used by ARSPM, rather than some prior set of prices, are the best basis for determining the forward-looking prices for switching equipment.

Q. Dr. Ankum concludes at pages 36 and 37 that ARPSM has inappropriately excluded 14 million "cutover" lines in its calculations. Do you agree with Dr. Ankum's conclusion?

A. No, I do not. ARPSM generates a forward-looking, market-based price for switching equipment that is directly tied to the actual quantities contemplated by the vendor and the carrier at the time the contract was negotiated. Using other quantities in the model, for example, to incorporate switching capacity (14 million lines, according to Dr. Ankum) installed before the current prices were set, would

distort the actual forward-looking price contemplated by the vendors and the carrier at the time the contracts were negotiated.

Q. Please provide an example of the fallacy of Dr. Ankum's approach.

A. Imagine that Dr. Ankum's methodology was to be used to estimate the price one might expect to pay for Andersen-brand windows in a home today. Windows may be used in new home construction, remodeling, or replacement. Instead of simply looking at the most recent price charged for Andersen windows to produce an estimate of today's price, Dr. Ankum would have one look at the prices that Andersen has charged throughout the past to generate today's price. In exactly the same way that the price charged by Andersen for windows placed in a new home in 1988 is irrelevant to its price today, the price charged to Ameritech for switches installed under prior contracts is also irrelevant to today's forward-looking price of switching. Clearly, such an approach would likely understate the market price of an Andersen window today, just as Dr. Ankum's proposal understates the forward-looking price of switching equipment.

Q. Dr. Ankum claims at page 35 that, because Ameritech includes only the replacement lines contemplated by the contracts in its calculation, that ARPSM "vastly understates the number of cheap cutover lines" and, therefore, overstates its switching investment. Do you agree?

A. No, I do not. He apparently believes that using the quantities and prices explicitly contemplated by the contracts is inappropriate when he states at page 35 that "for

cheap cutover lines, Ameritech counts only the lines it may install on a *handful* of switches that Ameritech plans to install over the coming years ... *Ameritech ignores the millions of cutover lines on its existing base of switches, all of which were installed at very low per line prices*" (emphasis in original). There are several problems with this statement. First, Dr. Ankum's analysis is not restricted to the most current vendor prices in the contracts, but instead assumes without justification that the lines in the existing network were installed at the low replacement line price. Second, continuing with the Andersen window analogy, Dr. Ankum is saying that in order to estimate the current price of windows, one must not ignore the millions of units provided in the past at lower prices. The unstated assumption in this illustration is that Andersen would sell its product in today's market at an average price heavily weighted by historic volumes provided at lower prices. This expectation is, of course, ridiculous. Similarly, there is no economic justification for Dr. Ankum's belief that the forward-looking price of switching should be based on the prices paid by Ameritech Illinois in the past.

Q. In the context of Dr. Ankum's discussion, is the use of historical pricing information to make current decisions consistent with microeconomic theory?

A. No, it is not. The average price charged by a vendor utilizing a two-tiered pricing structure today depends on the quantities contemplated at the time of the contract formation, not on the prices charged in prior contracts. Basic microeconomic theory indicates that an efficient firm prices its goods based on current, not past,

information about costs and market demand.

For example, a recent microeconomics textbook by Michael L. Katz and Harvey S. Rosen describes how an Apple Computer executive based the price charged for its computers' memory chips on the historical cost of such chips after memory prices plummeted in the late 1980s.[1] Needless to say, current customers were not concerned with what price Apple had paid for the chips in the past, but rather how Apple's current prices compared with current market chip prices. Consequently, Apple customers bought stripped-down Apple computers and upgraded the memory themselves at market prices rather than purchasing higher priced memory chips from Apple. Apple's profits plummeted, and the executive was soon reassigned to a less challenging position.

Q. At page 37, Dr. Ankum states that Ameritech's loop studies consider the "total volume" of loops in Illinois. He then argues that Ameritech's switching cost study is an exception because, according to Dr. Ankum, it fails to account for "all lines." Are Ameritech Illinois' switching and loop studies inconsistent?

A. No. Strictly speaking, Dr. Ankum is confusing the calculation of a forward-looking price per line with the calculation of a TELRIC price per line. This is intrinsically a two-step process, of which ARPSM is only the first step.

It is important to remember that ARPSM is a calculator that simply determines

[1] Katz and Rosen, *Microeconomics*, 2nd edition, Richard D. Irwin (publisher), out of Burr Ridge, IL, published 1994, at page 214.

the forward-looking market price of switching equipment based on the contracts Ameritech has with its vendors. ARPSM itself is *not* a TELRIC model in the standard sense of the term. ARPSM does not apply the contractual replacement and growth line prices to the entire network, but rather produces an average forward-looking price generated by the vendor contracts. This average switch price is subsequently used in cost models for all the lines in Ameritech Illinois' network as if, consistent with TELRIC principles, Ameritech Illinois were rebuilding its entire network from scratch.

This approach is entirely consistent with Ameritech Illinois' loop costing methodology. That is, the loop studies begin with average vendor prices derived from current contracts for equipment Ameritech will purchase in the future to provide new loops. Ameritech Illinois then applies those average prices to all loops in its network as if they were being built from scratch. If there is any inconsistency regarding this issue, it is in Dr. Ankum's arguments. Specifically, with respect to loops, Dr. Ankum has never to my knowledge argued that Ameritech's analyses ignore millions of loops installed in the past when prices and labor rates were presumably lower. Although current contracts for loop-related equipment and labor only govern future purchases, he has never argued that past purchases should be considered in determining average forward-looking vendor prices for loop TELRIC studies.

With respect to switching, since the total investment required to replace the existing end-office switches equals the product of the average price per line

calculated by ARPSM and the number of lines in the network, the TELRIC price equals the average price per line generated by ARPSM. The key distinction is that the application of the forward-looking price to the entire network, which converts a forward-looking per-unit price into a TELRIC price, is a step that occurs *outside* ARPSM.

Dr. Ankum's analysis assumes that the lines in the existing network that are not covered by the PIP contracts were installed at the lower replacement line price as part of the *first stage of the calculation.* In doing so, he muddles the two stages utilized by Ameritech in its TELRIC analysis by inappropriately introducing lines installed under historic contract prices no longer in effect into a weighted-average forward-looking price calculation.

Q. Is Dr. Ankum correct in stating at page 35 of his Direct Testimony that "the millions of cutover lines on [Ameritech's] existing base of switches all ...were installed at very low per line prices?"

A. No, he is not. Even if the historical prices of the installed base of lines were relevant to calculating the forward-looking price per line, as distinguished from the TELRIC price per line, Dr. Ankum has provided no evidence concerning the historical prices that applied to Ameritech's embedded base of lines.

By applying low current replacement line prices to the embedded base of lines, Dr. Ankum "mixes and matches" to achieve his objective. Specifically, he would apply a current price that applies to a very specific and limited set of forward-

looking purchases to a massive embedded base of lines.

Q. Please provide another example to illustrate your point.

A. Although a "CD Club" will replace 10 of an audiophile's vinyl records for a penny apiece, it does not follow that it will replace the entire collection for that price. Rather, after the first 10 CDs, the price is higher and the true forward-looking price is the average of the first 10 CDs at a penny apiece, and all subsequent purchases, including CDs that "grow" the audiophile's collection, at the higher price. It is clear to see that the limit on the quantity of "replacement" CDs is essential to the club's pricing structure.

The best method of calculating a forward-looking market price is to utilize the weighted-average price calculated by ARPSM, which recognizes that the number of low-priced lines is explicitly limited.

Q. Does Dr. Ankum's recommended methodology conform to the real-world pricing decisions that would be made by a switch vendor if the entire Ameritech Illinois network were to be replaced instantaneously?

A. No, it does not. The switch vendor knows that it is earning less profit on replacement lines than it is on growth lines. In some cases, it is clear that the vendor is losing money on every replacement line it sells to Ameritech. [redacted]

[redacted] However, the vendor also knows that the number of lines it will be forced to sell cheaply is *explicitly limited* by the contracts to particular analog switches. The higher growth line price, on the other hand, applies to not only the lines on digital switches being replaced under these contracts, but on all digital switches in the network at this time.

Most importantly, once Ameritech purchases a switch, Ameritech can, for practical purposes, only obtain equipment and system software that is compatible with the purchased switch from the vendor who manufactured the original switch. As an analogy, whoever provides the razor is the supplier of the blades. This is a fundamental fact of business regarding switch purchase decisions.

In contrast, Dr. Ankum's scenario expects vendors to charge the lower replacement price on a vastly higher percentage of lines than contemplated by the contracts. As demonstrated by Dr. Ankum, this drives down the average price per line significantly. Dr. Ankum's fiction introduces a "volume discount" that is entirely without basis in the contracts and would result in vendors not covering their total costs. Clearly, vendors would not have negotiated a single lower price for all lines if, by doing so, they would lose money. [redacted]

[redacted]

Q. Does Dr. Ankum's proposed methodology for instantaneously replacing the vast majority of the entire network at the replacement line price conform with the contracts, as they are currently written?

A. No. The replacement line price only applies to replacing particular analog switches in specific wire centers. Any digital switches that are replaced by new digital switches are not addressed by the contracts, and Ameritech would need to solicit bids from its vendors to accomplish such replacements.

Q. At page 37, Dr. Ankum states that a large number of cutover lines are not modeled in ARPSM, and consequently that Ameritech has failed to perform a TELRIC study. Is he correct?

A. No. As I explained above, ARPSM does not "model lines." ARPSM develops the average price that Ameritech will pay for the lines that it will buy over the lives of its current contracts. The UNE cost models then reasonably assume that this average price is what Ameritech would pay to replace every line in its network, as the TELRIC methodology postulates. It is true that many existing lines (i.e., all existing lines that are not on the analog switches identified in the contracts for conversion to new digital switches) are not included in the

development of the weights that ARPSM uses to combine the cutover and growth prices. This is because the current contracts do not address the price of those lines—they had already been purchased before the contracts were written, and were not anticipated to be replaced during the lives of the contracts. Dr. Ankum would have us assume that our vendors would replace all of our existing digital switches with new digital switches, at the same prices for which they have agreed to replace a limited number of analog switches. As I have shown above, this is ludicrous.

Q. At pages 37 and 38, Dr. Ankum argues that Ameritech Illinois' switching studies are inconsistent with the FCC's rules, and therefore are not TELRIC studies. Please respond to Dr. Ankum.

A. Dr. Ankum's argument consists of the same tired refrain, which I have already addressed above. As I stated above, ARPSM merely calculates an average forward-looking price per line based on the switch vendor contracts, and is not *itself* a TELRIC model. The conversion of ARPSM's results into investments suitable for use in a TELRIC model occurs when the forward-looking price of switching generated by ARPSM is multiplied by the total number of switched lines in service in Ameritech's network (to calculate the total investment required to replace the entire network), and is then divided by the total number of switched lines in service in Ameritech's network (to convert the total investment into an investment per switched line). The second task is conceptually distinct from that performed by ARPSM, and is entirely consistent with the FCC's requirements.

The fact that the investment generated by ARPSM equals the investment used in the switching TELRIC study does not mean that the second result is invalid.

Dr. Ankum's criticism of ARPSM's treatment of the vendor contracts would apply equally to an extremely simple vendor contract that did not specify a quantity equaling the total quantity of that item in the network. For example, if Ameritech ordered copper cable from a vendor that charged $1 million for 200,000 feet of cable, Dr. Ankum's logic would inexorably conclude that any TELRIC model using $5 investment per foot as an input does not comply with FCC guidelines because the initial analysis of the vendor contract included "only a subset" of the total footage of copper cable in Ameritech's network. Such a result is clearly absurd and cannot be what the FCC intended in writing the Local Competition Order.

Q. At page 38, Dr. Ankum states that the Michigan Commission recently found that Ameritech had not performed a TELRIC study because ARPSM placed too much weight on the growth lines, and required Ameritech to file a revised version of ARPSM as a result. Should this Commission rely on the Michigan Commission's decision?

A. No. Ameritech believes that for all the reasons given above, the Michigan decision was incorrect. Very little rationale was given in the order. Ameritech has appealed the decision in Michigan. Although Ameritech does not believe that the Michigan Commission's decision is appropriate precedent for this Commission, this Commission should note that the ULS port price approved by

the Michigan Commission in that docket is higher than the ULS port price sought by Ameritech in this docket. Similarly, the Michigan Commission approved a usage-sensitive charge in that docket.

Q. Is Ameritech Illinois' switching cost methodology consistent with the Illinois Cost of Service Rule (Rule 791)?

A. Yes, it is. Although Ameritech Illinois' switching study complies fully with the Cost of Service Rule, two subsections are particularly relevant. Rule 791.20(c) asserts, in part, that "[f]orward-looking costs ignore embedded or historical costs; rather, they are based on the least cost technology currently available whose cost can be reasonably estimated based on available data." Ameritech's methodology complies with 791.20(c) in each of these respects. First, ARPSM appropriately ignores embedded and historical costs, instead calculating the forward-looking investment per line exclusively based on the prices contained in Ameritech Illinois' existing vendor contracts. Second, ARPSM generates only the investments associated with state-of-the-art digital switches, and utilizes a forward-looking mix of analog and digital lines as contained in the switch vendor contracts. Finally, ARPSM generates reasonable estimates of a forward-looking investment per line, based on the explicit quantities and prices contained in its vendor contracts.

Similarly, Ameritech Illinois' switching study complies fully with 791.60(e), which states in relevant part:

> "Each cost study shall reflect input prices ... that the carrier is *actually expected to face.* The carrier shall provide the underlying

> bases for projected changes in input price levels, using, wherever possible, projections based on *market expectations* and rates set in labor contracts. Where appropriate, costs shall be based on prevailing vendor prices or vendor prices under consideration that reflect volume discounts or term discounts off listed input prices. These discounts shall be reflected in the cost study" (emphasis added).

ARPSM models input prices for switching contained in the vendor contracts that Ameritech will face for the foreseeable future. ARPSM's weighted average calculations are based on the market expectations of both Ameritech and the switch vendors regarding quantity and timing of switch capacity purchases at the time the contracts were signed. ARPSM appropriately incorporates the lower prices charged by switch vendors for the explicitly enumerated replacement switches into its average investment per line calculation. In sum, ARPSM generates input prices that are fully compliant with the Illinois Cost of Service Rule.

Q. Do Dr. Ankum's recommendations comply with the Cost of Service Rule?

A. No, they most certainly do not. At page 29, Dr. Ankum criticizes Ameritech Illinois' switching studies for:

> "ignor[ing] that large numbers of facilities *were placed* when switches *were* newly installed and that the switch vendors *provided* these facilities at very low prices. In other words, Ameritech weighs its analysis heavily toward the *expensive facilities that were placed* to accommodate growth.... Ameritech's analysis excluded millions of lines for which *very inexpensive switching facilities were installed*, and that, as a result, the study is not a TELRIC study" (emphasis added).

Dr. Ankum's repeated use of the past tense vividly illustrates his apparent belief

that past prices and inquiries regarding whether lines installed before the PIP contracts existed were classified as "replacement" or "growth" lines are somehow relevant to a forward-looking cost study. Clearly, Dr. Ankum's desire to drive by looking in the rear-view mirror does not comply with Rule 791.20(c).

Dr. Ankum's recommendations that existing lines be somehow weighted into ARPSM's analysis of the current vendor contracts also runs contrary to 791.60(e). His proposed weighting methods produce results that in no way resemble input prices that Ameritech Illinois is at all likely to face. His inclusion of existing lines in producing a weighted average not only lacks grounding in actual market expectations, but systematically pretends that the switch vendors would provision Ameritech Illinois' switching needs at an average price far lower than that anticipated by the parties when the contract was signed. Finally, Dr. Ankum's broad application of the low replacement line price is clearly an inappropriate treatment of vendor discounts.

Q. At page 40 of his testimony, Dr. Ankum cites a federal court's opinion from Delaware that he claims supports his contention that "the larger cut-over discounts – i.e., lower cutover prices – are appropriate under the TELRIC methodology." Do you believe that this case provides persuasive authority for his position?

A. No, I do not. There are several problems with Dr. Ankum's reliance on this court's opinion. First, Dr. Ankum has assumed that the relevant terms of the Bell Atlantic switch procurement contract are the same as those that Ameritech has

negotiated with its switch vendors. There is no basis for such an assumption. Indeed the case seems to indicate just the opposite. For example, the court's opinion, cited at page 46 of Dr. Ankum's testimony, discusses "bulk-rate discounts." On the surface, these comments describe a contract with a standard price to which a discount is applied. However, Ameritech's switch contracts contain specific prices without needing any further adjustment. Without a much greater description of Bell Atlantic's contracts that are at issue in the Delaware proceeding, no reasonable comparison, let alone conclusion, can be drawn from that court's opinion regarding how ARPSM uses Ameritech's switching prices for replacement and growth lines.

Second, it appears that Bell Atlantic based its cost estimates *only* on small discounts for "add-in" cards, and did not incorporate any "large discounts offered by switch sellers for bulk purchases." Unlike Bell Atlantic, ARPSM *does* incorporate the prices of replacement lines purchased in bulk in the average line price calculation.

Third, the court's opinion addresses Delaware Public Service Commission ("Delaware PSC") orders from 1997 and 1998 in which Bell Atlantic filed a switching study using Telcordia's SCIS model, and so the relevance of the federal court's ruling to Dr. Ankum's criticism of ARPSM is questionable.

Q. At page 42 of his testimony, Dr. Ankum also cites a portion of an FCC decision that he claims recognizes that cutover line prices should be used in the ILECs' forward-looking economic cost studies. Do you believe that this

decision supports the use of cutover line prices as suggested by Dr. Ankum?

A. No, it does not. Both Ameritech and Dr. Ankum recommend that cutover and replacement prices should be used by ARPSM. Yet, the FCC passage quoted by Dr. Ankum discusses switch upgrades, which does not directly refer to either cutover or replacement lines.

This passage needs to be understood in the context of the FCC's Tenth Report and Order released on November 2, 1999 in CC Docket No. 97-160, which culminated the FCC's determination of universal service costs applicable for the federal high cost support for non-rural local exchange carriers. The most pertinent determination made by the FCC in this proceeding was that, even though state commissions may decide otherwise, the FCC did not use company-specific switch investment data. Instead, the FCC decided to use public data to develop nationwide average switch investments.

The public data used by the FCC has its own problems. The Regional Bell Operating Company data include the investment for lines. However, the data also include the investments for switch upgrades caused by necessary changes to meet industry and regulatory requirements such as the expansion of the North American Number Plan to accommodate the introduction and expansion of Carrier Identification Codes and the introduction of the 888 code. Unfortunately, the investment effects of upgrades compared to lines added to existing switches could not be disentangled using their data set. Given the late date of their determination of the inputs for the federal mechanism, the FCC effectively punted

and excluded any investment for a switch that was not sufficiently close to the original placement of the switch. The bottom line was that the FCC had neither the means nor the method to combine temporally dispersed switch investments in order to develop nationwide average switch prices for a hypothetical efficient firm. However, ARPSM, in contrast to the FCC approach, provides the means and method to construct an average forward-looking switch price for Ameritech.

Q. At page 42, Dr. Ankum recommends that if the Commission does not decide to assume 100% of lines are the less expensive cutover lines, it should adjust "Ameritech's approach to properly reflect the entire base of Ameritech cutover lines and growth lines." Please summarize your response to this recommendation.

A. Dr. Ankum's recommendation should be rejected. It is based on the fundamentally flawed assumption that if Ameritech were to replace all of its existing digital switches with new digital switches, its vendors would offer the same price structure that they offer for the "handful" of analog switch replacements specifically addressed in its current contracts. There is no basis in the contracts for this assumption, and Dr. Ankum has offered no other basis for this assumption. In fact, the assumption leads to clearly absurd results, as demonstrated above. The much more reasonable assumption is that the average price that Ameritech's vendors would charge Ameritech to replace all existing lines is the same average price that the current contracts specify for the entirety of lines that will be purchased over the life of the contracts. This is the approach

that Ameritech has taken in its TELRIC studies, and it should not be modified.

Q. At page 49, Dr. Ankum states that "the weighted average per trunk port switch vendor price should be calculated using the same methodology." How do you respond?

A. The issues are the same here as they were for the line costs, and the conclusion is the same. Ameritech has calculated these costs correctly, and no modification is needed or appropriate.

Q. At pages 45 and 46, Dr. Ankum complains about the fill factor used for digital lines in ARPSM. He recommends that 96% be used. Do you have a response?

A. Yes, I do. The ARPSM documentation, which has been provided to the parties in discovery, discusses the reason why a 90% fill factor is applied to digital lines. The fill factor applied by ARPSM converts the price per purchased DS1 to a price per working or revenue-producing DS0. Based on Ameritech's experience, approximately 2.4 of the 24 DS0 channels contained in each DS1 are required for testing, maintenance, and administration, yielding a 90% fill factor. This 90% fill factor was approved by this Commission in Docket No. 96-0486.

The costs of this idle capacity are not borne by the switch vendor; when Ameritech purchases a DS1 termination, it pays the same amount for each physical DS1 termination provided by the vendor, regardless of whether none, half, or all of the DS0 circuits are actually used to provide service. While Dr.